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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application Serial No.09/608,028
Filing Date June 30, 2000
Inventorship Kartik Raghavan
Applicant Microsoft Corporation
Group Art Unit 2136
Examiner Colin, Carl G.
Attorney's Docket No. MS1-498US
Title: A System and Related Methods for Automatically Configuring a Computing
System

DECLARATION UNDER 37 C.F.R. §1.131

As a below named inventor, I hereby declare that:

I am the inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled "A System and Related Methods for Automatically Configuring a Computing System", as identified above.

Prior to January 18, 2000, which I am informed is the filing date of the non-provisional application of the provisional application No. 60/176,489 for Publication No. US2002/0055924 to Liming, I, together with the other named inventor, jointly conceived in the United States, the following ideas as described and claimed in the above-identified application:

* A method comprising:
receiving an identifier associated with a computing system and/or
computing system user; and
automatically modifying computing system resources based, at least in part,
on an assessment of the computing system resources.

1 * wherein the computing system is a communications device.

2
3 * wherein the identifier associated with a computing system and/or
4 computing system user is received from the computing system.

5
6 * wherein the identifier associated with the computing system and/or
7 computing system user is received from the computing system and/or a
8 communications device associated with the computing system user.

9
10 * the method further comprising:
11 automatically modifying system resources of the communications device
12 and the computing system resources based, at least in part, on an assessment of the
13 computing system resources.

14
15 * wherein automatically modifying computing system resources
16 comprises:

17 assessing computing system resources;
18 comparing the assessed computing system resources against authorized and
19 available computing system resources; and
20 selectively installing, configuring and/or updating certain of the computing
21 system resources based, at least in part, on the comparison.

22
23 * wherein the computing system is a communications device, the
24 method further comprising:

25 assessing communications device resources;

1 comparing the assessed communications device resources against
2 authorized and available communications device resources; and

3 selectively installing, configuring and/or updating one or more
4 communications device resources based, at least in part, on the assessed
5 communications resources.

6
7 * wherein the identifier is received from the computing system and/or
8 a communications device associated with the computing system user, the method
9 further comprising:

10 automatically modifying communications device resources based, at least
11 in part, on an assessment of the communications device resources.

12
13 * wherein the identifier is one or more of a telephone number
14 associated with the user, an electronic serial number (ESN) of the communications
15 device associated with the user, an electronic identifier associated with the
16 computing system, and/or a serial number associated with one or more hardware
17 and/or software resources of the computing system.

18
19 * wherein the identifier is one or more of a telephone number
20 associated with the user, an electronic serial number (ESN) of a communications
21 device associated with the user, an electronic identifier associated with the
22 computing system, and/or a serial number associated with one or more hardware
23 and/or software resources of the computing system.

1 * A storage medium comprising a plurality of executable instructions
2 which, when executed, implement the method.

3
4 * A server comprising:
5 a storage device having stored therein a plurality of executable instructions;
6 and
7 a control unit, coupled to the storage device, to execute at least a subset of
8 the plurality of executable instructions to implement the method.

9
10 * A server comprising:
11 a storage device to maintain a profile of resources available to authorized
12 users; and
13 a configuration agent, coupled to the storage device, to receive an identifier
14 associated with a computing system and/or computing system user and
15 automatically modify resources of the computing system based, at least in part, on
16 an assessment of the computing system resources.

17
18 * wherein the profile includes a list of identifiers associated with
19 authorized users.

20
21 * wherein the configuration agent accesses a user profile on the
22 storage device based, at least in part, on the identifier.

1 * wherein the configuration agent receives the identifier from the
2 computing system and/or a communications device associated with the computing
3 system user.

4
5 * wherein the configuration agent automatically modifies
6 communications device resources based, at least in part, on an assessment of
7 communications device resources.

8
9 * wherein the computing system is a communications device.

10
11 * wherein the identifier is one or more of a telephone number
12 associated with the user, an electronic serial number (ESN) of a communications
13 device associated with the user, an electronic identifier associated with the
14 computing system, a serial number associated with one or more hardware and/or
15 software resources of the computing system.

16
17 * wherein the storage device includes a plurality of executable
18 instructions, the server further comprising:

19 a controller, coupled to the storage device, to execute at least a subset of the
20 plurality of executable instructions to implement an instance of the configuration
21 agent.

22
23 * A storage medium comprising a plurality of executable instructions
24 including at least a subset of which that, when executed, implement a
25 configuration agent,

1 to assess system resources of a computing system upon receipt of an
2 identifier associated with the computing system and/or computing system user,
3 and to automatically modify resources of the computing system based, at
4 least in part, on an assessment of computing system resources.

5
6 * wherein the configuration agent compares the assessed computing
7 system resources against a profile of available and authorized resources associated
8 with the received identifier.

9
10 * wherein the configuration agent interrogates the computing system
11 upon receipt of the identifier to assess computing system resources.

12
13 * wherein the configuration agent downloads and automatically
14 installs system resources on the computing system based, at least in part, on the
15 assessed computing system resources.

16
17 * wherein the computing system is a communications device.

18
19 * wherein the identifier is received from a communications device,
20 and wherein the configuration agent automatically modifies system resources of
21 the computing system and the communications device based, at least in part, on
22 assessment of system resources of the computing system and communications
23 device.

24
25 * A computing system comprising:

1 a storage device having stored thereon plurality of executable instructions;
2 a network interface, communicatively coupling the computing system to a
3 network; and

4 a controller, coupled to the storage device and the network interface, to
5 execute at least a subset of the plurality of executable instructions to implement a
6 basic input/output system (BIOS) to issue a configuration request including an
7 identifier associated with the computing system to the network via the network
8 interface.

9
10 * wherein the computing system is an unconfigured computing
11 system.

12
13 * wherein the controller receives one or more commands to receive
14 and install computing system resources from network devices via the network
15 interface in response to the configuration request.

16
17 * wherein the identifier is associated with the computing system
18 and/or computing system user.

19
20 * wherein the computing system is a communications device.

21
22 * A method comprising:

23 issuing a configuration request from a computing system, wherein the
24 configuration request includes an identifier associated with the computing system
25 and/or computing system user; and

1 receiving a response to the configuration request at the computing system,
2 the response including one or more computing system resources, wherein the one
3 or more computing system resources are automatically installed and configured on
4 the computing system.

5
6 * wherein the one or more computing system resources are
7 automatically installed and configured in response to installation and configuration
8 commands received from a remote computing system.

9
10 * wherein the computing system is a communications device.

11
12 * wherein the one or more system resources enable the
13 communications device to communicate over an additional communications
14 medium

15
16 * wherein the configuration request is issued from a communications
17 device associated with the computing system user, the method further comprising:

18 receiving a response to the configuration request at the communications
19 device including one or more computing system resources, wherein the one or
20 more computing system resources are automatically installed and configured on
21 the computing system.

22
23 * * * * *

1 Prior to the January 18, 2000, filing of the non-provisional application of the
2 provisional application No. 60/176,489 for Publication No. US2002/0055924 to
3 Liming, I conceived the preceding ideas as described and claimed in the above-
4 identified application. Such conception is evidenced by the attached disclosure
5 document entitled, "Unified Setup Architecture (USA)". The disclosure document
6 was prepared prior to January 18, 2000, and it supports the preceding ideas as
7 described and claimed in the above-identified application.

8 Furthermore, I did diligently pursue reducing the preceding ideas to practice.
9 A first attached email correspondence (i.e., Subject: RE: Set-Up meeting notes)
10 between the joint inventors and patent counsel includes as an attachment, the
11 "Unified Setup Architecture (USA)" disclosure document just mentioned above.
12 The date of this first email correspondence is prior to the January 18, 2000, filing of
13 the non-provisional application of the provisional application No. 60/176,489 for
14 Publication No. US2002/0055924 to Liming. In addition, a second attached email
15 correspondence (i.e., Subject: RE: MS# 142462.1 "Simplified Set-Up Based on
16 Single User Identifier" patent application) between the joint inventors and patent
17 counsel, which is dated subsequent to the first attached email, evidences progress in
18 pursuing the filing of a patent application.


19 The disclosure document and dates of the additionally attached email
20 correspondence between myself, the other joint inventor, and patent counsel
21 evidence a diligent pursuit to reduce to practice, the preceding ideas as described and
22 claimed in the above-identified application by filing the subject application.

23 All statements made herein of my own knowledge are true and all statements
24 made on information and belief are believed to be true. Further, these statements
25 were made with the knowledge that willful false statements and the like so made are

1 punishable by fine or Imprisonment, or both, under Section 1001 of Title 18 of the
 2 United States Code and that such willful false statements may jeopardize the validity
 3 of the application or any patent issued therefrom.

4
 5 * * * * *

6
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 8 Kartik Raghavan

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 10 

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1 punishable by fine or Imprisonment, or both, under Section 1001 of Title 18 of the
2 United States Code and that such willful false statements may jeopardize the validity
3 of the application or any patent issued therefrom.

4
5 * * * * *

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8 Kartik Raghavan

9
10 _____ Date: _____

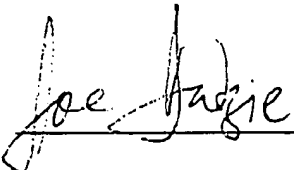
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Unified Setup Architecture (USA)

A proposed invention disclosure

Author: Kartik Raghavan (KartikR)

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Technology Center 2100

This document consists of introductory material and disclosure for the Unified Setup Architecture (USA) design. This document provides an introduction to the disclosure and covers the necessary design and technical details.

1. Summary

The current state of the art of installing and configuring a computer involves a collection of separate and disjoint steps and processes. Installation and Configuration information must be gathered and collected from separate places that may only be known in specific locations or by specific people.

For example, configuring a server today involves the following:

1. Install the Operating System (OS)

This requires the following:

A password for the computer and the name of the Computer
Type of Network in which the server will participate in
Components and features of the OS to enable
Personalization and license options

2. Configure Internet Settings

This involves knowledge of the following:

TCP/IP settings for the Server/Directory to join
Proxy Server or Internet Firewall to connect through for Internet Access
Configuration of Internet E-mail, News and FTP settings

3. Configure applications

This involves knowledge of the following:

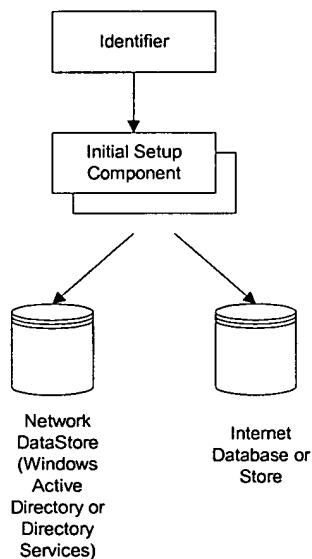
Applications to be installed for that particular user or computer
Required application settings (configuration parameters like install locations, customization options, etc..)

While scripting or customization solutions may offer partial solutions to the individual steps listed above, there is no one unified solution that handles all these needs. Given that usually all this information exists on a corporate network, intranet or internet, all of this information must be replicated or recreated sometimes on an individual basis to fully customize and configure a computer.

The invention defines a Unified Setup Architecture (USA) design which solves this problem by using a unique identifier (such as an e-mail address) to query a database or information store (such as a Directory Service) to provide all the information required to set up and configure a computer without having the installer know or replicate this information. This information can be provided over any input or transport medium such as a computer network, phone lines or keyboard. This Unified Setup Architecture also provides a level of security abstraction.

1.1 Disclosure

This Unified Setup Architecture invention consists of a framework that can be described by the following drawing:



There are 4 components to this model:

1. A unique identifier or key

The Unified Setup Architecture uses an e-mail address to correlate the configuration of a computer to a single identifier. An e-mail address is used because it is very common in networked environments, and computers are often associated to people. However, any other unique identifier could be used, such as a number or smart card.

2. Setup component that can query and interpret data returned by the stores

The Setup component interprets the unique identifier and transmits it to the data store. The Setup component then receives all the information transmitted by the data store and uses it to fully automate and drive the Setup of the computer system. Some of the information returned back from the store could be in the form of metadata that requires the Setup component to query the user, an internet site or other location for more information to

complete the installation.

3. An information store (such as the Windows Active Directory or a database) that contains all of the configuration information for the computer.

The information store accepts the query from the Setup component and transmits back the relevant configuration data. This store can be a directory (such as the Windows Active Directory) or a database (such as SQL Server). This information can either be statically contained in the database or generated dynamically based on the query.

4. A communication mechanism (represented by arrows in the above diagram) that passes information between the three components.

The communication mechanism could be a simple computer network (such as an intranet) or it could be the Internet or some other communication network such as phone lines or cellular networks. The communication network just has to provide the ability to transmit the data between the other three components. This network can have security methods built into the transport mechanism for transmitting encrypted data (such as passwords, configuration metadata, etc..)

To illustrate the practical usage of the Unified Setup Architecture, two scenarios are presented:

Scenario 1:

A corporate Administrator wants to install a Server in a branch office. The branch office has a network connection, but the person working in the Branch Office does not know all the information required to set up the Server and may not have the clearance to know some of the information. Using the Unified Setup Architecture, the corporate Administrator predefines all the information required to properly configure & install the computer in the branch office, and places the information in the network store. The corporate Administrator associates this information with the e-mail address of the person working in the branch office. All the person in the branch office does is start the Server, and type in their e-mail address. Using this as the key, all of the configuration and setup information is queried and downloaded to the Server, and the Server is installed.

Scenario 2:

An computer provider wants to configure computers for its customers over the Internet. So, the customer buys a system from the computer provider. The provider already has all the customer information required to fully configure the computer (such as E-mail account, internet provider). So, all the customer has to do is turn on the computer and enter the single identifier (such as their e-mail account). The Setup program goes to the Internet and queries the provider for the customer information required to set up the computer. This information is then downloaded to the customer's computer, and the computer is set up.

Deleted: ,

1.2 Details

Author of the initial description of the invention: Kartik Raghavan
Inventors of the conception/design: Joseph Dadzie, Kartik Raghavan

[REDACTED]
[REDACTED]
[REDACTED]

From: Kartik Raghavan (Exchange)
Sent: Wednesday, November 10, 1999 9:14 PM
To: Kartik Raghavan (Exchange); Tammy Krieger (LCA); Joseph Dadzie (Exchange)
Cc: Danielle Johnston (LCA); Melinda Pallemmaerts (DIESEN (LCA)); Tom Phillips (Exchange)
Subject: RE: Set-Up meeting notes

Tammy/Danielle:

Enclosed is the disclosure for the Unified Setup Architecture that we had mentioned to you in our first meeting as a high priority item:



web-based ip.doc

Please let Joe or myself know if you have any questions or concerns.

Thanks,

-Kartik

From: Melinda Pallemerts (DIESEN (LCA))
Sent: Monday, December 06, 1999 5:17 PM
To: Kartik Raghavan (Exchange)
Cc: Melinda Pallemerts (DIESEN (LCA)); Tammy Krieger (LCA)
Subject: MS# 142462.1 "Simplified Set-Up Based on Single User Identifier" patent application

Hi Kartik. We received this predisclosure document from you on 11/10 and it has been assigned to one of outside counsel law firms. As soon as that law firm schedules a visit here (they are based in Chicago), I will schedule a disclosure meeting for you so that we may move forward with pursuing this patent. I expect that meeting to take place in January, December's dates are looking limited.

I'm aware that this idea is a high priority and I will contact our "lawfirm scheduler" to push for the next visit. Please let me know if the January meeting would be unacceptable and we can pursue other options.

Thanks,
Melinda



RE: Set-Up meeting
notes